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before it started for Massachusetts, or whether the whole story was a fabrication, I do not know.

I have been thus particular in the description of these mines, because I am constantly consulted on similar wild metallic stories about rich deposits in Kansas, and because the metamorphic action indicated a possibility that silver might be found.

A HOLIDAY EXCURSION TO THE BIRTHPLACE OF MONTEZUMA.

Theo. S. Case, Kansas City, Mo.

Before entering upon a description of the ruins of the Pécós pueblo and church, I will say, that notwithstanding the volumes that have been written by the explorers of this central portion of the western hemisphere, descriptive of its past civilization, the vastness and perfection of that civilization have been by no means comprehended. Every day the hardy and venturesome prospectors of New Mexico, who, like the Spaniards of the sixteenth century, are urged on by an ardent quest of precious metals, discover new evidences of the existence, in prehistoric times, of a race of men, who in architecture, agriculture and the working of gold and silver, possessed a degree of knowledge and skill hardly surpassed in any age. The discoveries of these explorers also go far to prove that the land which is now so unproductive was once sufficiently arable and prolific of vegetation to sustain a dense population, and that the various reasons which are proposed by the writers of the present day to account for the abandonment of the country by these people, such as superstitious fear, the persecutions of hostile tribes, etc., are futile and unacceptable. It seems unquestionable that some vast change took place in the geological and physical condition of the country, causing its fountains to dry up, and changing its fertile valleys into arid wastes, thus literally starving the people out, and forcing them to seek new homes. This idea brings to the front the theory of the continent of Atlantis, with more plausibility than almost any other—a theory which, if established, will enable us to account for the migration of ancient peoples from one continent to the other, without taxing our credulity with the extremely doubtful one of the Behring's straits route. But since this route is buried in the mists of ages, possibly as far back as the Miocene period, when man did not exist, so far as we have been able to discover, we need not discuss it; especially when some of the most learned ethnologists, such as Prof. Retzius and Dr. Daniel Wilson, assert and apparently prove that the brachycephalic race can be traced through the Kurile islands and on the continent, from the latitude of Behring's straits, through Oregon, Mexico and Central America, and the whole length of South America, to Patagonia; also, that the mound-builders of the North were certainly of the same cranial type with the ancient Mexicans and Peruvians. The Abbe Brasseur de Bourbourg, after the ablest and most extensive researches, declares that the pre-Aztec Mexicans or Toltecs were a people identical with the mound-builders;

and Col. J. W. Foster, in his admirable work, the "Prehistoric Races of the United States," says that "They possessed a conformation of skull which would link them to the autoethones of this hemisphere—a conformation which was subsequently represented in the people who developed the ancient civilization of Mexico and Central America."

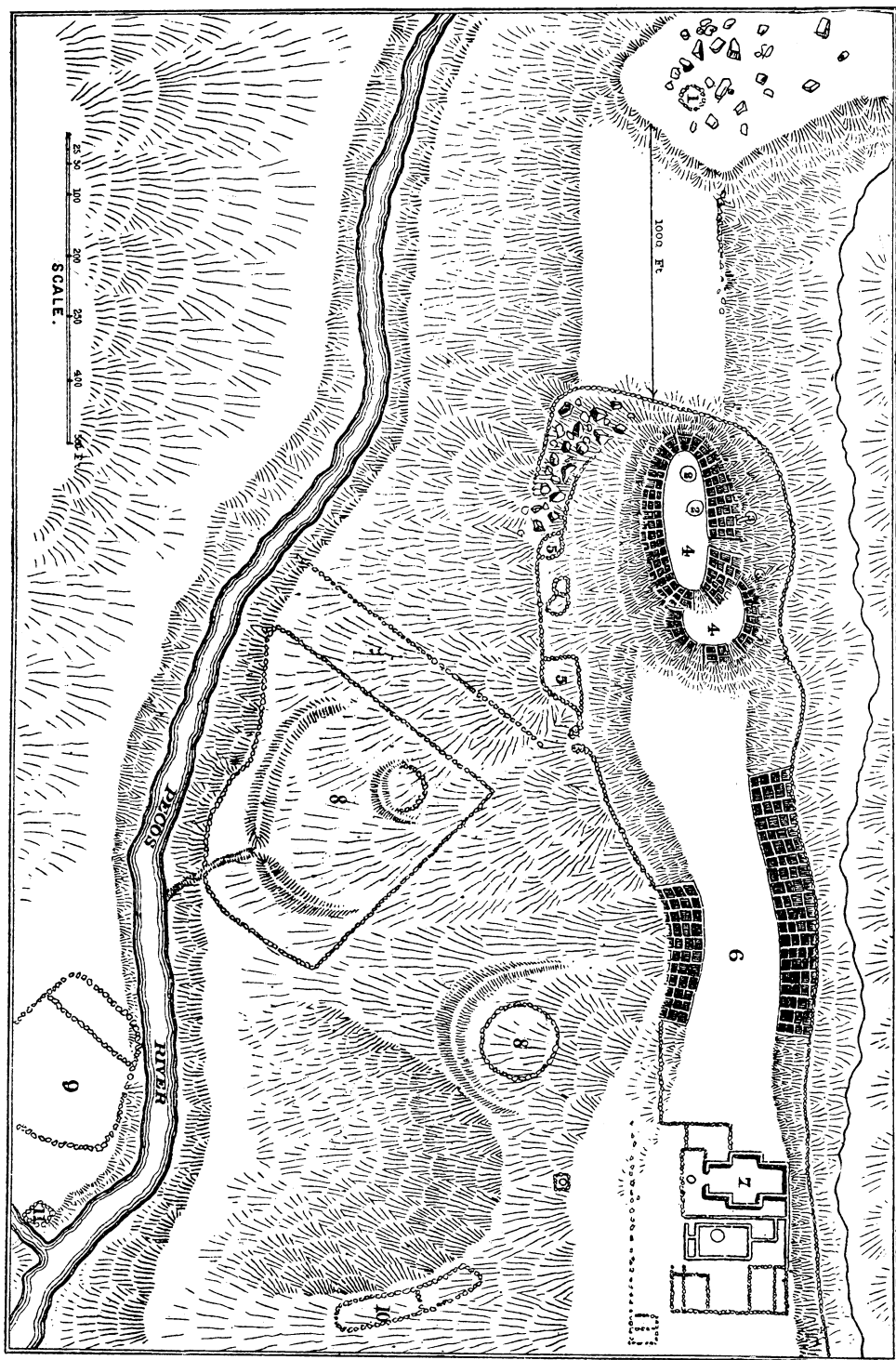
Winchell, in his Preadamites, includes the Pueblo Indians of North America, under the type of Asiatic Americans, and says: "These tribes bear so distinctly an Asiatic stamp as to point to the Mongoloid regions of the Old World as the home of their remote ancestors."

On the other hand, there are not wanting authorities who believe and assert that the civilization of New Mexico is a degraded successor of that of Central America and old Mexico, and that the migration furnishing the tribes that constructed the edifices of New Mexico, was from the South northward, instead of from the North southwardly, in accordance with the traditions of the Aztecs. Among these authorities are Bartlett and Squier, the latter of whom declares that the hypothesis of a migration from Nicaragua and Cuscatlan to Anahuac or Mexico is altogether more consonant with probabilities. Leaving the ethnologists to unravel this mass of contending facts and themes, we will proceed with our narrative.

Arrived at Baughl's station on the Atchison, Topeka & Santa Fé Railroad, which is no more than a siding, where railroad ties are received and handled, and which simply consists of a boarding car and two saloons, we started on foot for the scene of our explorations, about one mile and a half distant.

Before we had proceeded more than half a mile, we came into view of the church and ruins of Pecos, lying on a beautiful plateau on the further side of the Pecos river, separated by a narrow valley from a commanding range of mountains several miles beyond. This plateau seemed to be completely surrounded by mountains; those on the west being grand in their outline, and crowned by a bald peak, which appeared exactly adapted for a watch-tower for the people of the city on the plateau, and perhaps for an outlook for the priests of the sun, who, from its lofty summit, could catch his earliest rays long before they would be visible to the people below. The whole valley, from mountain range to mountain range, is about five or six miles, while it seems to be inclosed at both ends by purple ranges, about ten miles apart, with an occasional snow-capped peak. Thus apparently hemmed in on all sides, and in the midst of what was probably in the day of their prosperity a luxuriant and fertile plain, these ancient people built their singular houses, and lived peaceful and quiet lives. The evidences of their civilization are found in abundance, in implements for grinding corn, pottery evincing various degrees of skill, and in some places in pictured rocks and decorated caves.

These houses are very much alike in all the villages that are known, being built against the sides of bluffs or rocky acclivities, one story above another, to the height sometimes of five or six or seven stories. The material used is stone, cemented together, and sometimes coated or plastered on the outside with mud. The first story has no opening except at the top, which is reached with a ladder, while the other stories have doors opening from the roofs of those below. Within, or at least in the lower or basement



stories, there are connecting openings from one to another. The stories are separated by floors of timbers laid together, and sometimes bound together with withes. Remains of corner-posts, made of pine and cedar poles, are found abundantly in their proper positions.

The system of walls and outworks is very extensive, but whether it is all of the same age as the village, is more than I was able to determine. Commencing at the western end of the plateau, the first evidence of the hand of man that I discovered was a circular stone wall inclosing a space thirty feet in diameter. (1 in plate.) This is located upon a rocky point some 50 feet above the adjacent ground, and commands a view of the valleys on both sides, as well as of the plateau beyond, upon which the village is built. From all indications, this was a fort or lookout tower. (W. H. Holmes, in Bulletin No. 1 of the United States Geological Survey of the Territories, vol. II, 1876, describes the ruins of a tower found in the Mancos canon in Colorado, probably similar to this, whose outer dimensions were forty-five feet in diameter, and twelve feet in height at the highest point of the wall yet standing, which is twenty-one inches in thickness. It was double-walled, with apartments between the outer and inner walls. On the mesa above the bed of the river McElmo, a square-shaped tower was discovered standing on the summit of a great block of sandstone, forty feet high, and detached from the bluff back of it. At another place on the McElmo, the ruins of a triple-walled tower were found, with sectional apartments between the outer and second walls; and such towers abound on prominent points all along the Gila, Chaco, Rio Grande, and other rivers of Colorado and New Mexico.) Proceeding eastwardly, we descend from this point some twenty feet or more to a long and narrow passage of bare rock, not less than 1,000 feet long, by an average width of about 100 feet. On the north side, this passage is defended by a stone wall running along the edge of the rock for a distance of about 300 feet. For the remainder of the distance to the foot of the bluff upon which the ruined village is built, there is no sign of any work done by man.

At the foot of the bluff just mentioned, we come upon the remains of a stone wall, which runs around both sides of the plateau from village to church, being in its whole length not less than 2,000 feet. This wall seems to have been intended for defense, as it is located on the extreme edge of the plateau, all around, just where the steep and almost perpendicular declivity begins.

Commencing here, we are amazed at the size of these ruins. (4.) The buildings were commenced at the foot of the bluff, the rooms of the first story being, say, eight by ten feet, and about seven feet in height. The rooms on this floor have no doors in the side walls, but are entered from the roof, which is reached by a ladder. Upon this story another is built, which is set back from the front of the first, and like it, leans against the side of the bluff. This story has doors in the front of the rooms, which are entered from the roof of the lower story. In this way as many as six or seven stories are built, one upon another, and the buildings are extended laterally as far as the necessities of the community demand, all united as closely together as cells in a honey-comb.

In this Pecos village there were not less than 1,000 rooms, and probably

many more. I could readily count 200 rooms at the top, and from four to six stories on the sides of the bluff. The whole group seemed to consist of two irregular circles, the larger of which extended partially around the end of a rocky bluff, about thirty feet high above the bare rock just described, rising two stories above its summit, and completing the circle or oval upon the surface of the bluff. This circle is 225 feet across in one direction, say east and west, and seventy in the other, with one opening or passage, say sixteen feet wide, leading down the face of the bluff on the northern side, and one into the inclosure on the east.

This area contains two basin-shaped, stone-lined reservoirs, probably for water, twenty-five feet in diameter and more than six feet deep (2), as was proven by digging into them to that depth without finding the bottom of the stone lining. They are filled with earth to within some three or four feet of the surface. Outside of the circle of huts, at the foot of the bluff on the north side, but inside of the stone wall above named, are two similar stone-lined, basin-shaped reservoirs, sixteen feet in diameter, and filled within two or three feet of the surface. (3.) One of these is on each side of the passage-way before mentioned. A very singular thing is, that the western of these reservoirs seems to be connected with one of those inside by an aqueduct or conductor, constructed wholly of cement* made of ashes and some other substance, possibly lime, though no lime or cement of any kind is found in any other part of the works.

This aqueduct is exposed at the margin of the reservoir nearest the bluff, and is at least two feet in diameter, with walls not less than eighteen or twenty inches in thickness. It was constructed by making lumps and blocks of the cement, some rounded and some flat, varying from four to ten inches in diameter, and laying them upon each other like bricks, and fastening them together with layers of similar cement, and finally smoothing the whole over with a coating of the same. I had no implement but an old hatchet, and could do but little in the way of excavating this aqueduct, and may have been mistaken as to its object and purpose; but from its locality and shape, as disclosed by my cutting into it some two feet or more, I think I am correct.

Adjoining the inclosure above described on the east, is a small one, also built around with similar stone huts, two stories high, which is about sixty by seventy feet in diameter, and has two gateways, one to the northeast and the other to the southeast, each ten feet wide and thirty-six feet long. To the southward of both of these inclosures, and close to the rocky declivity, which is bold and commanding, are several remains of walls and buildings, nothing being left but the foundations and some loose rock. The first or western of these is 24x58 feet, the second 24x27, and the third 10x30. Still further east, and on the extreme point of the rock, is a triangular-shaped inclosure 54x69, the third side being made by the wall on the edge of the bluff. From the situation of these (5), especially the last named, they were evidently for the purposes of outlook and defense.

Just east of the huts last described, the ground slopes rapidly to the east and south, with ledges of bare rock making a kind of wall to the southward

*The Mineralogist of the Smithsonian Institution reports that this cement "is composed of silica, carbonate of lime, and carbonate of magnesia, with a trace of iron."

and westward. Still proceeding eastwardly, we pass over some two hundred feet of bare, smooth rock, where we come to two other groups of ruins (6), about four hundred feet in length, one on each side and overhanging the respective bluffs on the north and south sides of the plateau. There are about eighty huts in each of these groups on the summit, making probably about two hundred in all, when averaged at two stories high. They are similar to those just described, being made of stone cemented together with mud, and arranged in rooms of from six to ten feet square, those in the basement story being connected by openings underground. Between these groups of huts the space is nearly or quite two hundred feet wide.

We did not find any rooms among them answering to the description given by several explorers of the *estufas*, where the sacred fire was kept burning, unless the circular, stone-lined basins, within the court of the larger village, may have been originally covered over and used for such a purpose. (Dr. Hammond, who accompanied Lieutenant Simpson in his United States military reconnoissance in New Mexico, in describing the ruins of Chaco, speaks of sacred *estufas*, circular in form, excavated several feet deep in the earth, and inclosed with circular wall.) The fact that no water, except perhaps the drippings from the roofs of the upper tier of huts, could naturally find its way into these basins, gives probability to the suggestion that they may have been constructed for *estufas*, instead of for storing water.

On the south side of the plateau, about half-way between the first and second village, is a gateway in the outer wall, which in that part is six or seven feet high and from three to four feet thick. This gateway is about ten feet wide, and was apparently made to enable the inhabitants to pass out their stock to graze and to water in the inclosures which will be described a little later.

Having now described nearly everything on the plateau that seems to belong to the Aztec civilization, we will pass out of the gate just mentioned, on to the slope that descends gradually to the Pecos river, which winds its way along at a distance of a few hundred yards to the southwardly.

The first thing which attracts our attention is a long stretch of ruined wall, which extends in a southwestwardly direction from a point within about 120 feet from the gate to the bank of the river, 600 feet away. Just beyond the upper end of this wall we find an inclosure (8), walled all the way around, 390 feet by about 120 feet, and banked up with earth at the lower part, as if to retain water. Just at the lower corner there appears to have been an artificial outlet through the dam and wall, for prudential purposes. Within this inclosure is a circular artificial pond, also banked up with earth, about seventy-five feet in diameter. Just east of this inclosure and a little further up the slope is another (9), apparently constructed for the same purpose, being nearly as large, and banked up across the lower part in a similar manner. Within this, also, is a smaller circular pond, 120 feet across, which even at this time was muddy in the center, although it did not contain any water.

Still proceeding eastwardly, there are traces of walls and apparent foundations of buildings all along the slope, and on a little eminence about 200 yards southeastwardly of the inclosure last described, are the remains of two walls (10), inclosing spaces respectively 100 feet square and 125x140.

On the opposite side of the Pecos river, between it and a small stream which empties into it, and 345 feet southeast of the water inclosure first above described, is a kind of pentagonal inclosure, 240 feet in diameter (9), and crossed by another wall which divides it into one large and one very narrow compartment. Just beyond and southeast of this are the remains of what has apparently been a fortification situated just at the confluence of the two streams.

This completes the description of the outside works. We will now return to the plateau. Passing from the groups of Aztec huts last described, we proceed eastwardly 180 feet, and find ourselves face to face with the old Pecos church itself. Before describing this old building (7), we will refer to the history of the discovery of the village, which had its origin long before the Spanish invasion, and which is held by the Aztecs to have been the birth-place of Montezuma himself.

There seems to be no doubt that the Aztecs migrated from some more northern region into Mexico, and the traditions of the present Pueblos, who are believed to be descendants of the original Aztecs, teach that this very spot was the birthplace of Montezuma. But Short, in his "North Americans of Antiquity," claims that this is a different civilization, and that the culture god Montezuma of the Pueblos and the Aztec monarch, Montezuma, are not to be confounded. Dr. Foster, in his "Prehistoric Races of America," does not speak of any such distinction. At all events, all writers agree that Pecos is one of the most important of all the ancient ruins of this region, and that it was one of the sacred cities of the Pueblos. Here the everlasting fire, dedicated to their god Montezuma, was kept burning from time immemorial down to the abandonment of the town, which occurred, according to Short, some time during the second quarter of the present century. Other authorities fix the year at 1837.

One tradition is that Montezuma was born at Acoma, and subsequently removed to Pecos, where he taught the people the arts of civilization, and that when he removed to the south he told them to keep the sacred fire burning until his return. But he never came. Warriors watched the fires, and remained on duty by turns, until through decimation, from one cause and another, the tribe became too much reduced in numbers to keep up the watch any longer. Then three warriors took the remains of the fire and carried it into the mountains, where Montezuma himself appeared and received it. Thus relieved, they abandoned their village, and joined their brothers west of the Rio Grande.

"For generations," as Short eloquently says, "these strange architects and faithful priests waited for the return of their god—looked for him to come with the sun, and descend by the column of smoke which rose from the sacred fire. As of old the Israelitish watcher upon Mt. Sier replied to the inquiry, 'What of the night?' 'The morning cometh,' so the Pueblo sentinel mounts the house-top at Pecos, and gazes wistfully into the east for the golden appearance—for the rapturous vision of his redeemer, for Montezuma's return—and though no ray of light meets his watching eye, his never-failing faith, with cruel deception, replies, 'The morning cometh.'"

In about 1540, Coronado, the Spanish Governor of New Spain, lured by

the resistless rumor of boundless wealth of gold and silver, which no Spaniard could withstand, led an expedition to this very village, then called Cicuyé. The Pecos river must have been a far larger stream than at present, as Coronado found it frozen over with ice strong enough to bear up his horses. He found the settlement of Cicuyé extending along the river for six miles, and the soil extensively cultivated by the Indians. It was from that time that the decline of the tribe commenced. The date of the building of the church is not exactly known,* but it was probably very soon after the invasion by Coronado, for zeal in religious matters was next to lust for gold in the heart of the Castilian, in all of his conquests.

We may imagine that the gentle and tractable Pueblos were speedily induced by their enthusiastic conquerors to embrace Christianity, and that the building of this church was a work of fear of temporal power, rather than of faith in and love of the deity represented by the Spaniards. It was constructed of adobes, which are about sixteen inches long, twelve inches wide, and three inches thick. Its shape is that of the Latin cross, its walls six feet thick, and its dimensions one hundred and forty feet long by forty feet wide, the traverse portion being fifty-seven by thirty-five feet, and its original height about thirty feet. There were several smaller rooms attached on each side, and possibly a building of considerable dimensions on the west side, as there are traces of adobe walls which indicate either a building or an inclosure divided into smaller rooms or lots. I have in my possession a book published in 1854, containing an engraving which represents the church as having a building on the west side. I could find nothing in the appearance of the ground to indicate anything of the kind, either in the way of rubbish or otherwise, and it seems to me, if the church itself could so well withstand the ravages of time, any adjoining building would have endured as well. The roof of the church has been nearly gone for many years, and the side-walls of the front end are also crumbled away nearly to the ground. The rear portion is nearly at its original height, and some of the cross-beams with their rude carvings, remain in situ. The others have been cut away by curiosity-hunters.

The adobes of which the building is constructed are made of a reddish clay, containing small pieces of pottery of a ruder and coarser order than that found about the Pueblo villages. In one of these inclosures, just west of the church, is a small excavation, about twelve feet in diameter, evidently the remains of a water reservoir. Immediately in front of the entrance, and about forty feet from it, is what seems to be an old well, which has been walled up with stone, and has been more recently filled up with earth.

About seventy-five feet still further on, we come to the traces of an old wall terminating on the east in the ruins of several small rooms or inclosures, also of stone. About eighty feet still further, and directly in front of the entrance to the church, is an inclosure about eighteen feet square, with a central stone-heap about three feet square. Still further in the same direction, we find a semi-circle declivity, which was probably originally the work of man, which terminates on the right at the water inclosure described on page 18. In speaking of walls, it is to be remembered that most

*Mr. A. Goselachowski informs me that it was probably erected just about 250 years ago, by the Spanish Jesuits, and that the town and church were destroyed by the Comanche Indians in the latter part of the eighteenth century.

of them are ruins, and many of them mere traces, although readily discernible as one walks over the ground. (7.)

Leaving the church for the present, we will turn back to the ruined villages in search of relics. Broken pottery abounds on all hands, and it seemed to me that I could detect specimens representing at least three distinct periods of time: First, and oldest, that found in the adobes, of which the church is built, which is coarse and rough; second, that which is made of finer clay, but without ornament; and lastly, that which is painted; and perhaps fourthly, that which shows an effort at glazing.

We found numerous flint arrow-heads, all of which were small, none being over one and a half inches in length. Perhaps this is due to the fact that the larger ones have been picked up by earlier explorers. We also found several broken metatas, or grinding pestles; and in one of the large rocks near the upper village, I found three bowl-shaped cavities, about ten inches in diameter, and from three to four inches deep, which I conceived to be the mortars in which the natives ground or beat their corn into meal.

We also found numerous pieces of obsidian, which appeared to have been split off in keen flakes for cutting purposes; also fragments of smoking pipes, with more or less ornamentation cut or scratched upon them. Besides these things, we discovered smaller ornaments, in the way of shells pierced for suspension, pieces of selenite roughly carved into ornamental shapes, and small bits of red paint. Not a scrap of iron, or any kind of metallic weapon, tool or implement could be discovered in either church or village—not even a nail—though it is well known that the natives understood the art of smelting ores—at least those of silver and gold, and of working them most artistically. If other proof of this knowledge were wanting, we could supply it in the form of several pieces of slag picked up near the villages; and the people who reside near say that remains of old smelting works are still to be found in the mountains.

Parts of three days were given to this exploration, in company with Mrs. Case, Major H. Inman, of Kansas, and Mr. A. H. Whitmore, of Las Vegas, all of us being greatly interested, and more than willing to devote much longer time and labor to a more complete examination of these ruins, should another opportunity present itself when we were better prepared to do them justice.

A great many more most interesting things were seen by us in New Mexico, but the limits of this paper have been reached, and an account of the remainder must be postponed until another time, with the closing suggestion, that had these industrious and ingenious natives not been disturbed and driven out by the thriftless and avaricious Spaniards, who never improved any country by their conquest of it, they would in all probability have built up the ruling empire of North America, and thus at least have kept alive the fire of civilization kindled by Montezuma—the culture god—in their minds, until the day of his return, in the millennium.